

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A light emitting device comprising:
a pixel portion having an n-channel TFT and a light emitting element over a substrate,
wherein the n-channel TFT comprises:
an active layer including:
a channel forming region;
an n-type impurity region (c) adjacent to the channel forming region;
an n-type impurity region (b) adjacent to the n-type impurity region (c); and
an n-type impurity region (a) adjacent to the n-type impurity region (b);
a gate insulating layer provided over the active layer; and
a gate electrode provided over the gate insulating layer, the gate electrode including:
a first conductive film provided over the gate insulating layer; and
a second conductive film provided over the first conductive film,
wherein the first conductive film overlaps the channel forming region and the n-type impurity region (c) with the gate insulating layer interposed therebetween, and
wherein the second conductive film overlaps the channel forming region with the gate insulating layer and the first conductive film interposed therebetween.

2. (Previously Presented) A light emitting device comprising:
a driver circuit having an n-channel TFT over a substrate; and
a pixel portion having a light emitting element over the substrate,
wherein the n-channel TFT comprises:
an active layer including:

a channel forming region;
an n-type impurity region (c) adjacent to the channel forming region;
an n-type impurity region (b) adjacent to the n-type impurity region (c); and
an n-type impurity region (a) adjacent to the n-type impurity region (b);
a gate insulating layer provided over the active layer; and
a gate electrode provided over the gate insulating layer, the gate electrode including:

a first conductive film provided over the gate insulating layer; and
a second conductive film provided over the first conductive film,
wherein the first conductive film overlaps the channel forming region and the n-type impurity region (c) with the gate insulating layer interposed therebetween, and
wherein the second conductive film overlaps the channel forming region with the gate insulating layer and the first conductive film interposed therebetween.

3. (Previously Presented) The light emitting device as claimed in claim 1, wherein the first conductive film comprises one of tantalum nitride and titanium nitride, and the second conductive film comprises tungsten.

4. (Previously Presented) The light emitting device as claimed in claim 2, wherein the first conductive film comprises one of tantalum nitride and titanium nitride, and the second conductive film comprises tungsten.

5. (Previously Presented) The light emitting device as claimed in claim 1, wherein the first conductive film comprises tungsten, and the second conductive film comprises aluminum.

6. (Previously Presented) The light emitting device as claimed in claim 2, wherein the first conductive film comprises tungsten, and the second conductive film comprises aluminum.

7. (Previously Presented) The light emitting device as claimed in claim 1, wherein the n-type impurity region (a) includes an n-type impurity element in concentrations from 1×10^{20} to 1×10^{21} atoms/cm³, the n-type impurity region (b) includes an n-type impurity element in concentrations of from 2×10^{16} to 5×10^{19} atoms/cm³, and the n-type impurity region (c) includes an n-type impurity element in concentrations from 1×10^{16} to 5×10^{18} atoms/cm³.

8. (Previously Presented) The light emitting device as claimed in claim 2, wherein the n-type impurity region (a) includes an n-type impurity element in concentrations from 1×10^{20} to 1×10^{21} atoms/cm³, the n-type impurity region (b) includes an n-type impurity element in concentrations of from 2×10^{16} to 5×10^{19} atoms/cm³, and the n-type impurity region (c) includes an n-type impurity element in concentrations from 1×10^{16} to 5×10^{18} atoms/cm³.

9. (Previously Presented) The light emitting device as claimed in claim 1, wherein the gate electrode is covered by an insulating film comprising a resin film and at least one of a silicon nitride film and a silicon oxynitride film.

10. (Previously Presented) The light emitting device as claimed in claim 2, wherein the gate electrode is covered by an insulating film comprising a resin film and at least one of a silicon nitride film and a silicon oxynitride film.

11. (Previously Presented) The light emitting device as claimed in claim 9, wherein a coloring layer is provided between the resin film and the silicon nitride film or between the resin film and the silicon oxynitride film.

12. (Previously Presented) The light emitting device as claimed in claim 10, wherein a coloring layer is provided between the resin film and the silicon nitride film or between the resin film and the silicon oxynitride film.

13. (Previously Presented) The light emitting device as claimed in claim 1, wherein the light emitting device is one selected from the group consisting of an EL display, a video camera, a digital camera, a portable computer, a personal computer, a portable telephone, and a car audio stereo.

14. (Previously Presented) The light emitting device as claimed in claim 2, wherein the light emitting device is one selected from the group consisting of an EL display, a video camera, a digital camera, a portable computer, a personal computer, a portable telephone, and a car audio stereo.

15-24. (Cancelled)

25. (Previously Presented) A light emitting device comprising:
a pixel portion having an n-channel TFT and a light emitting element over a substrate,

wherein the n-channel TFT comprises:

an active layer including:

a channel forming region;

an n-type impurity region (c) adjacent to the channel forming region;

an n-type impurity region (b) adjacent to the n-type impurity region (c); and

an n-type impurity region (a) adjacent to the n-type impurity region (b);

a gate insulating layer provided over the active layer;

a gate electrode provided over the gate insulating layer, the gate electrode including:

a first conductive film provided over the gate insulating layer; and

a second conductive film provided over the first conductive film,
a coloring layer over the gate electrode:

wherein the first conductive film overlaps the channel forming region and the n-type impurity region (c) with the gate insulating layer interposed therebetween, and

wherein the second conductive film overlaps the channel forming region with the gate insulating layer and the first conductive film interposed therebetween.

26. (Previously Presented) A light emitting device comprising:

a driver circuit having an n-channel TFT over a substrate; and

a pixel portion having a light emitting element over the substrate,

wherein the n-channel TFT comprises:

an active layer including:

a channel forming region;

an n-type impurity region (c) adjacent to the channel forming region;

an n-type impurity region (b) adjacent to the n-type impurity region (c); and

an n-type impurity region (a) adjacent to the n-type impurity region (b);

a gate insulating layer provided over the active layer;

a gate electrode provided over the gate insulating layer, the gate electrode including:

a first conductive film provided over the gate insulating layer; and

a second conductive film provided over the first conductive film,

a coloring layer over the gate electrode:

wherein the first conductive film overlaps the channel forming region and the n-type impurity region (c) with the gate insulating layer interposed therebetween, and

wherein the second conductive film overlaps the channel forming region with the gate insulating layer and the first conductive film interposed therebetween.

27. (Previously Presented) The light emitting device as claimed in claim 25, wherein the first conductive film comprises one of tantalum nitride and titanium nitride, and the second conductive film comprises tungsten.

28. (Previously Presented) The light emitting device as claimed in claim 26, wherein the first conductive film comprises one of tantalum nitride and titanium nitride, and the second conductive film comprises tungsten.

29. (Previously Presented) The light emitting device as claimed in claim 25, wherein the first conductive film comprises tungsten, and the second conductive film comprises aluminum.

30. (Previously Presented) The light emitting device as claimed in claim 26, wherein the first conductive film comprises tungsten, and the second conductive film comprises aluminum.

31. (Previously Presented) The light emitting device as claimed in claim 25, wherein the n-type impurity region (a) includes an n-type impurity element in concentrations from 1×10^{20} to 1×10^{21} atoms/cm³, the n-type impurity region (b) includes an n-type impurity element in concentrations of from 2×10^{16} to 5×10^{19} atoms/cm³, and the n-type impurity region (c) includes an n-type impurity element in concentrations from 1×10^{16} to 5×10^{18} atoms/cm³.

32. (Previously Presented) The light emitting device as claimed in claim 26, wherein the n-type impurity region (a) includes an n-type impurity element in concentrations from 1×10^{20} to 1×10^{21} atoms/cm³, the n-type impurity region (b) includes an n-type impurity element in concentrations of from 2×10^{16} to 5×10^{19} atoms/cm³, and the n-type impurity region (c) includes an n-type impurity element in concentrations from 1×10^{16} to 5×10^{18} atoms/cm³.

33. (Previously Presented) The light emitting device as claimed in claim 25, wherein the gate electrode is covered by an insulating film comprising a resin film and at least one of a silicon nitride film and a silicon oxynitride film.

34. (Previously Presented) The light emitting device as claimed in claim 26, wherein the gate electrode is covered by an insulating film comprising a resin film and at least one of a silicon nitride film and a silicon oxynitride film.

35. (Previously Presented) The light emitting device as claimed in claim 33, wherein a coloring layer is provided between the resin film and the silicon nitride film or between the resin film and the silicon oxynitride film.

36. (Previously Presented) The light emitting device as claimed in claim 34, wherein a coloring layer is provided between the resin film and the silicon nitride film or between the resin film and the silicon oxynitride film.

37. (Previously Presented) The light emitting device as claimed in claim 25, wherein the light emitting device is one selected from the group consisting of an EL display, a video camera, a digital camera, a portable computer, a personal computer, a portable telephone, and a car audio stereo.

38. (Previously Presented) The light emitting device as claimed in claim 26, wherein the light emitting device is one selected from the group consisting of an EL display, a video camera, a digital camera, a portable computer, a personal computer, a portable telephone, and a car audio stereo.

39. (Previously Presented) A light emitting device comprising:

a pixel portion formed over a substrate including a light emitting element and a TFT,

wherein the TFT comprises:

a semiconductor island on an insulating surface over the substrate;

source and drain regions formed in the semiconductor island;

a channel forming region in the semiconductor island between the source and drain regions;

a pair of lightly doped regions formed between the channel forming region and the source and drain regions;

a gate electrode formed over the semiconductor island with a gate insulating film interposed therebetween, the gate electrode comprising at least a first conductive film and a second conductive film formed on the first conductive film;

wherein the channel forming region is overlapped by the first conductive film and the second conductive film,

wherein portions of each of the pair of lightly doped regions are overlapped by the first conductive film, and not being overlapped by the second conductive film, and

wherein the source and drain regions are not overlapped by the gate electrode.

40. (Previously Presented) A light emitting device comprising:

a driver circuit having a TFT over a substrate; and

a pixel portion having a light emitting element over the substrate,

wherein the TFT comprises:

a semiconductor island on an insulating surface over the substrate;

source and drain regions formed in the semiconductor island;

a channel forming region in the semiconductor island between the source and drain regions;

a pair of lightly doped regions formed between the channel forming region and the source and drain regions;

a gate electrode formed over the semiconductor island with a gate insulating film interposed therebetween, the gate electrode comprising at least a first conductive film and a second conductive film formed on the first conductive film;

wherein the channel forming region is overlapped by the first conductive film and the second conductive film,

wherein portions of each of the pair of lightly doped regions are overlapped by the first conductive film, and not being overlapped by the second conductive film, and

wherein the source and drain regions are not overlapped by the gate electrode.

41. (Previously Presented) The light emitting device as claimed in claim 39, wherein the first conductive film comprises one of tantalum nitride and titanium nitride, and the second conductive film comprises tungsten.

42. (Previously Presented) The light emitting device as claimed in claim 40, wherein the first conductive film comprises one of tantalum nitride and titanium nitride, and the second conductive film comprises tungsten.

43. (Previously Presented) The light emitting device as claimed in claim 39, wherein the first conductive film comprises tungsten, and the second conductive film comprises aluminum.

44. (Previously Presented) The light emitting device as claimed in claim 40, wherein the first conductive film comprises tungsten, and the second conductive film comprises aluminum.

45. (Previously Presented) The light emitting device as claimed in claim 39, wherein the gate electrode is covered by an insulating film comprising a resin film and at least one of a silicon nitride film and a silicon oxynitride film.

46. (Previously Presented) The light emitting device as claimed in claim 40, wherein the gate electrode is covered by an insulating film comprising a resin film and at least one of a silicon nitride film and a silicon oxynitride film.

47. (Previously Presented) The light emitting device as claimed in claim 45, wherein a coloring layer is provided between the resin film and the silicon nitride film or between the resin film and the silicon oxynitride film.

48. (Previously Presented) The light emitting device as claimed in claim 46, wherein a coloring layer is provided between the resin film and the silicon nitride film or between the resin film and the silicon oxynitride film.

49. (Previously Presented) The light emitting device as claimed in claim 39, wherein the light emitting device is one selected from the group consisting of an EL display, a video camera, a digital camera, a portable computer, a personal computer, a portable telephone, and a car audio stereo.

50. (Previously Presented) The light emitting device as claimed in claim 40, wherein the light emitting device is one selected from the group consisting of an EL display, a video camera, a digital camera, a portable computer, a personal computer, a portable telephone, and a car audio stereo.

51. (New) A light emitting device comprising:
a pixel portion having an n-channel TFT and a light emitting element over a substrate,
wherein the n-channel TFT comprises:
an active layer including:
a channel forming region;
an n-type impurity region (c) adjacent to the channel forming region;

an n-type impurity region (b) adjacent to the n-type impurity region (c); and
an n-type impurity region (a) adjacent to the n-type impurity region (b);
a gate insulating layer provided over the active layer; and
a gate electrode provided over the gate insulating layer, the gate electrode
including:

 a first conductive film provided over the gate insulating layer; and
 a second conductive film provided over the first conductive film,
 wherein the first conductive film overlaps the channel forming region and the n-
type impurity region (c) with the gate insulating layer interposed therebetween,
 wherein the second conductive film overlaps the channel forming region with the
gate insulating layer and the first conductive film interposed therebetween, and
 wherein the gate insulating layer has a greater thickness over the channel
forming region than over the n-type impurity region (a).

52. (New) A light emitting device comprising:

a driver circuit having an n-channel TFT over a substrate; and
a pixel portion having a light emitting element over the substrate,
wherein the n-channel TFT comprises:

an active layer including:

a channel forming region;

an n-type impurity region (c) adjacent to the channel forming region;

an n-type impurity region (b) adjacent to the n-type impurity region (c); and

an n-type impurity region (a) adjacent to the n-type impurity region (b);

a gate insulating layer provided over the active layer; and

a gate electrode provided over the gate insulating layer, the gate electrode

including:

 a first conductive film provided over the gate insulating layer; and

 a second conductive film provided over the first conductive film,

wherein the first conductive film overlaps the channel forming region and the n-type impurity region (c) with the gate insulating layer interposed therebetween, and

wherein the second conductive film overlaps the channel forming region with the gate insulating layer and the first conductive film interposed therebetween, and

wherein the gate insulating layer has a greater thickness over the channel forming region than over the n-type impurity region (a).

53. (New) The light emitting device as claimed in claim 51, wherein the first conductive film comprises one of tantalum nitride and titanium nitride, and the second conductive film comprises tungsten.

54. (New) The light emitting device as claimed in claim 52, wherein the first conductive film comprises one of tantalum nitride and titanium nitride, and the second conductive film comprises tungsten.

55. (New) The light emitting device as claimed in claim 51, wherein the first conductive film comprises tungsten, and the second conductive film comprises aluminum.

56. (New) The light emitting device as claimed in claim 52, wherein the first conductive film comprises tungsten, and the second conductive film comprises aluminum.

57. (New) The light emitting device as claimed in claim 51, wherein the n-type impurity region (a) includes an n-type impurity element in concentrations from 1×10^{20} to 1×10^{21} atoms/cm³, the n-type impurity region (b) includes an n-type impurity element in concentrations of from 2×10^{16} to 5×10^{19} atoms/cm³, and the n-type impurity region (c) includes an n-type impurity element in concentrations from 1×10^{16} to 5×10^{18} atoms/cm³.

58. (New) The light emitting device as claimed in claim 52, wherein the n-type impurity region (a) includes an n-type impurity element in concentrations from 1×10^{20} to 1×10^{21} atoms/cm³, the n-type impurity region (b) includes an n-type impurity element in concentrations of from 2×10^{16} to 5×10^{19} atoms/cm³, and the n-type impurity region (c) includes an n-type impurity element in concentrations from 1×10^{16} to 5×10^{18} atoms/cm³.

59. (New) The light emitting device as claimed in claim 51, wherein the gate electrode is covered by an insulating film comprising a resin film and at least one of a silicon nitride film and a silicon oxynitride film.

60. (New) The light emitting device as claimed in claim 52, wherein the gate electrode is covered by an insulating film comprising a resin film and at least one of a silicon nitride film and a silicon oxynitride film.

61. (New) The light emitting device as claimed in claim 59, wherein a coloring layer is provided between the resin film and the silicon nitride film or between the resin film and the silicon oxynitride film.

62. (New) The light emitting device as claimed in claim 60, wherein a coloring layer is provided between the resin film and the silicon nitride film or between the resin film and the silicon oxynitride film.

63. (New) The light emitting device as claimed in claim 51, wherein the light emitting device is one selected from the group consisting of an EL display, a video camera, a digital camera, a portable computer, a personal computer, a portable telephone, and a car audio stereo.

64. (New) The light emitting device as claimed in claim 52, wherein the light emitting device is one selected from the group consisting of an EL display, a video

camera, a digital camera, a portable computer, a personal computer, a portable telephone, and a car audio stereo.